

The effect of the association of...

S/020/63/148/002/036/037
B124/B186

Table 2. Size and molecular weight of cis-polybutadiene macromolecules in different θ -solvents.

Legend: (1) Number of the fraction; (2) Solvent; (3) Temperature, °C;
(4) Dioxane; (5) Methyl butyl ketone.

(1) № фракции	(2) Растворитель	(3) Т-ра, °C	$\bar{M}_w \cdot 10^3$	\bar{M}_w / \bar{M}_n	$[\eta]$	$(\bar{r}^2)^{1/2},$ Å	$\Phi^*, 10^{-11}$	$A, 10^3$
Д-2 1 ($\bar{M}_n = 500 \cdot 10^3$)	(4) Дioxан	21	1,040	2,1	1,45	430	19	2,7
		25	1,050	2,1	—	430	—	4,6
		30	1,100	2,2	—	460	—	6,7
		40	1,100	2,2	—	460	—	10,0
Д-3 2 ($\bar{M}_n = 390 \cdot 10^3$)	(4) Дioxан	20	1,500	3,9	1,48	570	12	0
	(5) Метилбутил- кетон	25	700	1,8	1,37	410	14	8,0
		50	750	1,9	—	450	—	15,0

Card 4/4

CHERNOVA, Ye.S.

Age and correlation of Simbirskite beds and of the Belemnite
formation in the Volga Valley. Biul. MOIP. Otd. geol. 26 no.6:
46-81 '51.

(MIRA 11:5)

(Volga Valley--Paleontology)

SC7/5-33-1-3/25

AUTHOR: Chernova, Ye.S.

TITLE: Basic Structural Features of the Zmeinogorsko-Bystrushinskiy synclinorium of the Rudnyy Altay (Osnovnyye cherty stroeniya Zmeinogorsko - Bystrushinskogo sinklinoriya Rudnogo Altaya)

PERIODICAL: Byulleten' Moskovskogo obshchestva isspytateley prirody. Otdel geologicheskii, 1958, Vol 33, Nr 1, pp 19-27 (USSR)

ABSTRACT: The Zmeinogorsko-Bystrushinskiy synclinorium is situated in the north-western part of the Rudnyy Altay on the border of the Gornyy Altay, and it forms a north-western part of a still larger Bukhtarma synclinorium. The Zmeinogorsko-Bystrushinskiy synclinorium is composed of separate large synclines forming together an echelon structure: 1) the Zmeinogorsk syncline formed by Middle-Devonian rocks; 2) the Petrovskiy syncline: its axial part formed by Upper-Devonian and its wings - by Middle-Devonian rocks; 3) the axial part of the Bystrushinskiy syncline is formed by Lower-Carboniferous and its wings - by Devonian rocks; and 4) the Cherevshanka syncline, situated south-east of the Bystrukha syncline, with rocks of the Tournaisian stage. Detailed structural descriptions of these synclines are given. According to the author, the presence of three structural stages - the Lower, Middle and

804/5-33-1-3/25
Basic Structural Features of the Zmeinogorsko-Bystrushinskiy Synclinorium of the Rudnyy Altay

Upper Paleozoic - indicates three basic phases in the development of the Zmeinogorsko-Bystrushinskiy synclinorium and of the Aley anticlinorium which borders this synclinorium from the south-west. During the Lower Paleozoic time, basic structures of the Aley anticlinorium were formed as well as the large synclinal depression to the east of it. During the Middle-Paleozoic time, the complicated Zmeinogorsk-Bystrukha synclinorium was formed in this depression. The superimposed troughs filled its most depressed part in the Upper-Paleozoic time. This article sums up the findings of the author and of following geologists who worked in this region: V.P. Nekhoroshev, M.V. Muratov, K.Ya. Mikhaylov, V.I. Chernov, D.I. Gorzhevskiy, Yu.S. Perfil'yev, I.A. Kosyreva, I.S. Chumakov, G.P. Yakovlev, V.I. Tikhonov and M.F. Mikhonov. There is 1 map and 5 Soviet references.

Card 2/2

CHERNOVA, Ye.S.; NEMKOV, G.I.

First find of nummulites in Eocene sediments of the Tajik Depression.
Izv.vys.ucheb.zav.;geol.i razv. 4 no.9:122-125 S '61. (MIRA 14:9)

1. Moskovskiy geologorazvedochnyy institut imeni S. Ordzhonikidze.
(Tajik Depression--Nummulites)

MOSOLOV, I.V.; CHERNOVA, Ye.S.

Effect of supplementary mineral nutrition on the metabolism,
yield and quality of the green mass of corn used for ensilage.
Izv. AN SSSR Ser. biol. 29 no.1:47-56 Ja-F'64 (MIRA 17:3)

1. The Union Research Institute, Moscow.

MOSOTOV, I.V.; CHERNOVA, Ye.S.

Metabolism and productivity of corn as related to the conditions
of nutrition. Izv. AN SSSR. Ser. biol. 31 no.1:84-91 Ja-F '66.
(MIRA 19:1)

1. Vsesoyuznyy nauchno-issledovatel'skiy institut udobreniy.
Submitted April 3, 1964.

CHERNOVA, YE. V.

ROLL, Ya.V., doktor biologicheskikh nauk; FRENKEL', G.M.; GOL'DSHTEYN, M.V.;
CHERNOVA, Ye.V.

Sanitary and biological studies of the Belaya River in the vicinity of Ufa, 1941-1942 [with summary in English]. Trudy Inst. hidrobiol. AN URSR no.21:5-65 '47. (MLRA 8:5)

1. Chlen-korrespondenty Akademii nauk USSR.
(Belaya River--Water--Pollution)

CHERNOVA, Ye.V.

USSR / Virology. Human and Animal Viruses.

E-3

Abs Jour: Ref Zhur-Biol., No 10, 1958, 43046.

Author : Enikeeva, U. S., Dobrovolskaya, G. N., Chernova, E.V.

Inst : Not given.

Title : Content of Poliomyelitis Virus Antibodies in Sera of
Donors and of Gamma-Globulin by Neutralization Re-
action under AVB Control.

Orig Pub: Tr. Ufimsk. n.-i. in-ta vaktsin i syvorotok, 1957,
No 4, 211-216.

Abstract: No abstract.

Card 1/1

VOROB'YEV, A.A.; KOROBOV, A.M.; POYARKOVA, M.A.; KORNEV, I.S.;
ANDROSHCHUK, S.M.; prínimali uchastiye: MORDUYEVA, A.A.; IGONINA,
Yu.A.; CHERNOVA, Yu.S.; NIKOLAYENKO, Yu.P.; MAKAROVA, V.A.

Method for preparing sorbed tetanus anatoxin from a purified and
concentrated toxin. Zhur.mikrobiol., epid.i immun. 33 no.8:107-112
Ag '62. (MIRA 15:10)

(TOXINS AND ANTITOXINS) (TETANUS)

66483

~~5(2,3)~~ 5.383/

SOV/20-129-1-29/64

AUTHORS: Belonovskaya, G. P., Dolgoplosk, B. A., Corresponding Member,
AS USSR, Chernova, Zh. D.

TITLE: Investigation of the Reaction of the Oxidation of $TiCl_3$ With
Hydroperoxide of Isopropylbenzene in Aqueous and Hydrocarbon
Media

PERIODICAL: Doklady Akademii nauk SSSR, 1959, Vol 129, Nr 1,
pp 105 - 108 (USSR)

ABSTRACT: Oxidating chain processes are expected to take place in poly-
mers containing Ti^{3+} because of its oxidation to Ti^{4+} ; above
all, destruction or construction of polymers may be expected.
Hence it was attempted to investigate this oxidation and its
occurrence without secondary processes which deteriorate the
structure and properties of the polymers. The oxidation mention-
ed in the title was investigated in aqueous solutions and
hydrocarbons. Figure 1 shows the interaction of $TiCl_3$ with the
above hydroperoxide in aqueous and aqueous-alcoholic solution
with and without nitrile of acrylic acid at 20° and 0° , respecti-
vely. The ratio of $TiCl_3$ used per 1 mol hydroperoxide is 1:2;
in the presence of the acceptor of free radicals (nitrile of

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Investigation of the Reaction of the Oxidation of SOV/20-129-1-29/64
TiCl₃ With Hydroperoxide of Isopropylbenzene in Aqueous and Hydrocarbon Media

acrylic acid, methylmethacrylate) it is almost 1:1. Reaction takes place also at low temperatures and does not stop until -70°. If the acceptor mentioned is absent, 15-17% of methane (with regard to hydroperoxide) is liberated at 20° in the case of 1% hydroperoxide solution. With a ratio of TiCl₃:hydroperoxide = 2:1 at 20° the main products of hydroperoxide decomposition are: dimethylphenylcarbinol (65-75% yield) and acetophenone (15-17%). If it is allowed to stand, TiO₂ is quantitatively separated from aqueous solution. On account of the above data the authors assume that the processes (1)-(4) take place in aqueous solutions (see Diagram). The reactions (2) and (3) are repressed in the presence of the above acceptor. The reaction mentioned in the title can be used for introducing polymerization in emulsion media at temperatures to -50°. Moreover, it can be used for homogeneous polymerization of partially water-soluble monomers (nitrile of acrylic acid, methylmethacrylate) at low temperatures. These substances react in a hydrocarbon medium (benzene with 8-10% absolute ethanol) in a ratio close to 1:1. Since reaction (2) seems to be specific for radicals of the type RO· (HO·) only, it cannot be used in hydrocarbon media for the introduction of processes with great chain length.

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Investigation of the Reaction of the Oxidation of SOV/20-129-1-29/64
TiCl₃ With Hydroperoxide of Isopropylbenzene in Aqueous and Hydrocarbon Media

The system TiCl₃-hydroperoxide is very effective for processes with short chains (e.g. construction of rubber). Table 2 shows the inhibition of polybutadiene and polyisoprene construction by benzoquinone, nitrobenzene, dinitrobenzene, and neozone-D (phenyl-β-naphthylamine). The above results show that the oxidation of Ti³⁺ salts takes place by means of hydroperoxide involved in chain radical reactions. The latter can introduce the polymerization process in aqueous media. They lead to rubber construction in hydrocarbon media. These processes can be repressed by specific inhibitors; at the same time, secondary radical processes can be eliminated. There are 1 figure, 2 tables, and 5 Soviet references.

ASSOCIATION: Institut vysokomolekulyarnykh soyedineniy Akademii nauk SSSR
(Institute of High-molecular Compounds of the Academy of Sciences, USSR)

SUBMITTED: July 10, 1959

Card 3/3

S/190/62/004/002/001/C2
B110/B101

AUTHORS: Belonovskaya, G. P., Dolgoplosk, B. A., Chernova, Zh. D.
TITLE: Study of the oxidation of $TiCl_3$ in hydrocarbon and aqueous media
PERIODICAL: Vysokomolekulyarnyye soyedineniya, v. 4, no. 2, 1962, 161 - 166

TEXT: A. N. Nesmeyanov et al. (Dokl. AN SSSR, 95, 813, 1954) has shown that the oxidation of $Ti(OR)_3$ by oxygen proceeds via the free radical $(OR)_3TiO^{\cdot}$. The oxidation reactions of $TiCl_3$ by oxygen and hydroperoxides were to be studied in connection with the polymerization with Ziegler catalysts. Colloids, 1 - 2 and 8 - 10% solutions of $TiCl_3$ in absolute C_2H_5OH with benzene, acidified with glacial acetic acid were rapidly oxidized by oxygen at 18 - 20°C. In solutions of cis-1,4-polyisoprene (I) and cis-1,4-polybutadiene (II), this caused deep destruction of polymers, and a decrease in intrinsic viscosity for I from 2.03 to 1.3, and for II from 3.92 to 2.7. $TiCl_4 \cdot 4C_6H_5NH_2$ was separated during the oxidation of
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S/190/62/004/002/001/021
B110/B101

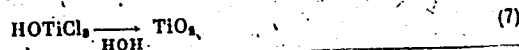
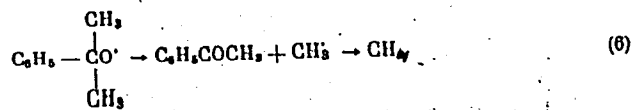
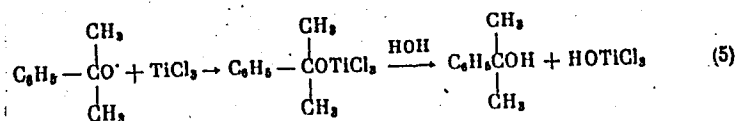
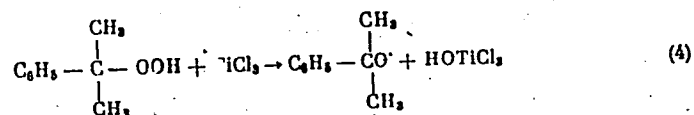
Study of the oxidation of $TiCl_3$...

$TiCl_3$ with azobenzene in aqueous and hydrocarbon solutions. The complexes with azobenzene nitro-benzene, aniline, and phenols, which can easily be washed out with water, are water-resistant, and hydrolyze after prolonged storage only. The reaction $TiCl_3 + ROOH \longrightarrow RO^\bullet + HOTiCl_3$;
 $RO^\bullet + AH \longrightarrow ROH + A^\bullet$, (AH = solvent) takes place with isopropyl benzene hydroperoxide. Thus, 2% benzene solutions of I and II are immediately structuralized at 20°C. Ordinary inhibitors of chain radical processes such as aromatic amines and phenols, as well as nitro-benzene, quinone and other oxidizers inhibit the structuralization. In a homogeneous aqueous solution, polyacrylonitrile is obtained in ~60% yield at 20°C from acrylonitrile in the presence of isopropyl benzene hydroperoxide and $TiCl_3$.
In aqueous solutions, isopropyl benzene hydroperoxide reacts with $TiCl_3$ at a molar ratio of 1 : 2 in the absence of acceptors of free radicals. In the presence of such acceptors, the ratio of the reacting components is ~1. The reaction is stopped at ~-70°C. At $\gg 20^\circ C$ and with ~1% hydroperoxide solution, 16-20% CH_4 (referred to hydroperoxide) is separated, which is not the case in the presence of acceptors. 65 - 75% dimethyl phenyl carbinol
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S/190/62/004/002/001/021
B110/B101

Study of the oxidation of TiCl_3 ...

and 15 - 17% acetophenone are formed at a TiCl_3 : hydroperoxide ratio of 2 : 1 in the absence of acceptors. The reactions:



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Study of the oxidation of $TiCl_3$...

S/190/62/004/002/001/021
B110/B101

are assumed to take place under the action of $TiCl_3$ with hydroperoxide, (5) and (6) do not occur in the presence of acceptors. There are 2 figures, 5 tables, and 10 references: 6 Soviet and 4 non-Soviet. The reference to the English-language publication reads as follows: M. S. Kharash, A. Fono, W. Nudenberg, J. Organ. Chem., 16, 113, 1951.

ASSOCIATION: Institut vysokomolekulyarnykh soyedineniy AN SSSR (Institute of High-molecular Compounds AS USSR)

SUBMITTED: November, 24, 1960

Card 4/4

L 19635-65 EWT(m)/EPF(c)/EPR/EWP(j)/T Pc-4/Pr-4/Pe-4 WW/RM

ACCESSION NR: AP5000509

S/0080/64/037/011/2473/2477

AUTHOR: Belonovskaya, G. P.; Chernova, Zh. D.; Bessonova, L. A.

TITLE: Emulsion polymerization of vinyl acetate at low temperatures B

SOURCE: Zhurnal prikladnoy khimii, v. 37, no. 11, 1964, 2473-2477

TOPIC TAGS: emulsion polymerization, vinyl acetate, polyvinylacetate, low temperature polymerization, polymer viscosity

ABSTRACT: The authors developed a new technique for the preparation of polyvinylacetate in a stream of nitrogen, a stable emulsion being formed by combining 6% OP-10 emulsifier (a condensation product of ethylene oxide with alkyl phenols), 0.1% ascorbic acid, and 0.2% isopropylbenzene peroxide with reference to the amount of vinyl acetate, the latter being dissolved in a 50 or 55% water-glycerol mixture in a 3:1 ratio. The emulsion was cooled to -25 or -35°C in a thermostat, after which 15 or 30 mol. % ferrous ammonium sulfate were added with stirring. The polymers, separated by adding warm saturated NaCl solution, show that lower polymerization temperatures increase the viscosity of polyvinyl acetate and of polyvinyl alcohols and reduce their α -glycol and acetate group content. The course of the polymerization under various conditions is shown in Fig. 1 of the Enclosure.

Cord 1/4

L 19635-65

ACCESSION NR: AP5000509

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"The polarographic determination of the α -glycol bonds was carried out by O. B. Iv in the ×
Fiziko-khimicheskaya laboratoriya (Physicochemical Laboratory) of the IVS." Orig. art.
has: 1 table and 2 figures.

ASSOCIATION: none

SUBMITTED: 19Nov62

ENCL: 02

SUB CODE: OC, MT

NO REF SOV: 003

OTHER: 003

Cord 2/4

L 19635-65

ACCESSION NR: AP5000509

ENCLOSURE: 01

(a)

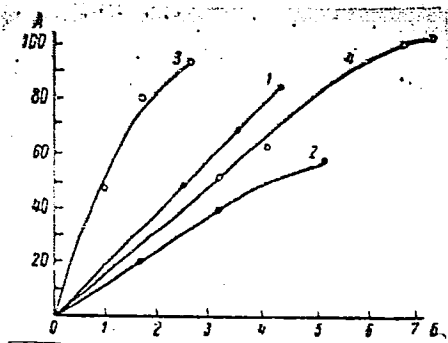


Fig. 1. Emulsion polymerization of vinylacetate at temperatures of (a) 0°C and above, (b) less than 0°C. Ordinate = degree of conversion in %; abscissa = time in hours.

Temperature in °C and concentration of Mohr's salt in mol. %: (a) 1 - 0 and 10, 2 - 0 and 5, 3 - 20 and 0.75, 4 - 50 and 0.25; (b) 1 - -25 and 60, 2 - -25 and 15, 3 - -35 and 30.

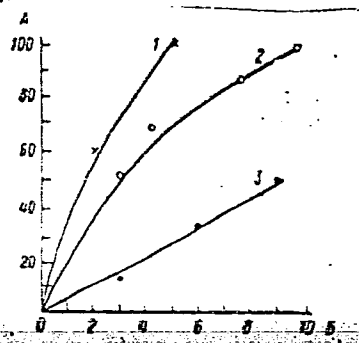
Card 3/4

L 19635-65

ACCESSION NR: AR5000509

0 ENCLOSURE: 02

(b)



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L 39715-65 EPF(c)/EWP(j)/EWT(m)/T Pc-L/Pr-L RM

ACCESSION NR: AP5011727

RR 0080/64/037 021/2547 2550

AUTHOR: Belonovskaya, G. P.; Beasonova, L. A.; Chernova, Zh. D. 26

TITLE: Homogeneous polymerization of vinyl monomers at reduced temperatures

SOURCE: Zhurnal prikladnoi khimii, v.

TOPIC TAGS: polymerization, redox reaction, vinyl plastic

ABSTRACT: Oxidation-reduction systems used for the polymerization of various monomers: 1) dimethylacryline, isopropylacrylate, naphthalene, 2) dimethylacryline and isopropylacrylate, and for isopropylacrylate and methacrylate, and for ethyl acrylate, isopropylacrylate, and for isopropylacrylate and methacrylate. The results of the study of the polymerization of these monomers are presented. The study of the polymerization of these monomers with 20% methanol at 30° indicated that the polymerization process can be effectively accomplished using an oxidation-reduction system consisting of

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L 39715-65

ACCESSION NR: APOC117M

alpha-hydroxymethyl-p-tolylsulfone and benzofuran. In this case 80% conversion is reached in 10-12 hours. The polymer obtained under these conditions is a white solid. The polyvinyl alcohol obtained by saponification of the ester synthesized according to this method is soluble in water at 25°C of approximately 1.5, and in acetone, 1.03% alpha-glycol groups. (orig. and trans.)

ASSOCIATION: none

SUBMITTED: 19Nov62

ENCL: 00

SUP CODE: 00 00

NO REF SOV: 001

OTHER:

1962

Card 2/2 E

CHERNOVA, Z. V., Cand. Tech. Sci. (diss) "Investigation of Some Regularities of Lighting of Water in its Suspended Settling," Moscow, 1961, 24 pp (Moscow Civil Engr. Inst.) 200 copies (KL Supp 12-61, 276).

CHERNOVA-BRUZDEVA, YA.A.

P.6

30(5)

SOV/10-59-4-27/29

AUTHOR: Parkhomenko, I.I.

TITLE: First Conference to Study the Development of Productive Forces of the Stanislavskiy ekonomicheskii administrativnyy rayon (Stanislav Economic District)

PERIODICAL: Izvestiya Akademii nauk SSSR, Seriya geograficheskaya, 1959, Nr 4, pp 156-157 (USSR)

ABSTRACT: The article covers the First Inter-Vuz Conference to Study the Development of Productive Forces of the Stanislav Economic District and Methods to Conduct Economic and Geographical Research on the National Economy which took place in Chernovtsy from 6 to 10 April, 1959. The conference was organized by the Ministerstvo vysshego obrazovaniya USSR (Ministry of Higher Education of the Ukrainskaya SSR), the Chernovitskiy gosudarstvennyy universitet (Chernovtsy

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First Conference to Study the Development of Productive Forces of the Stanislavskiy ekonomicheskii administrativnyy rayon (Stanislav Economic District)

State University), and the Sovet narodnogo khozyaystva (Economic Council) of the Stanislav Economic District, with more than 100 scientists, education specialists, engineers, economists, and planning workers participating who heard 50 reports. The following personalities delivered reports: K.M. Leutskiy, Head of the Chernovtsy State University, held an opening address; I.V. Romanov, Deputy Chairman of the Stanislav Economic Council, lectured on the future development of that district during 1959-65; V.V. Onikiyenko - on "The Industrial Complex of the Stanislav Economic District and Its Economic Prospects in the Future" and "Basic Laws in the Development and Geographical Distribution of Agricultural Production in the Carpathian areas of the Ukrainskaya SSR"; N.G. Ignatenko - on "The Present-Day Specialization Level in the Chemical Industry of the Stanis-

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First Conference to Study the Development of Productive Forces
of the Stanislavskiy ekonomicheskii administrativnyy rayon (Stanislav Economic District)

lav Economic District and Its Future Development"; Ye.V. Mironova - on "The Industry of Chernovtsy and Its Future Development"; Ya.I. Zhupanskiy and Ya.I. Bondarenko - on "The Wood Resources and Lumber Industry of the Stanislav Oblast' and Their Future Prospects"; V.A. Kostyuk, Chairman of the Planning Committee of the Stanislav Oblast', reported on the development of economy in the Stanislav Oblast' during 1959-65, whereas D.S. Shemetun, Chairman of the Planning Committee of the Drogobychskaya oblast' (Drogobych Oblast') reported on the development of economy of the oblast' during that period; I.T. Pastukhov, Head of the Stanislavskoye oblastupravleniye (Stanislav Oblast' Administration), lectured on the

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First Conference to Study the Development of Productive Forces
of the Stanislavskiy ekonomicheskii administrativnyy rayon (Stanislav Economic District)

history of development and distribution of both forest economy and lumber industry in the Stanislav Oblast'; V.A. Perevalov, L'vovskiy trgovno-ekonomicheskii institut (L'vov Institute of Commerce and Economics), elucidated on "The Teaching of V.I. Lenin on the Territorial Division of Labor as a Base for the Modern Theory of Division of the USSR Into Economic Districts"; S.L. Lutskiy, (L'vov University), - on "The Methods of Division Into Low-Level Economic Districts"; I.I. Parkhomenko, Institut nauchnoy informatsii AN SSSR (Institute of Scientific Information AS USSR), - on "The Location and Nature of Economic and Geographical Research on Various Scales at Working Out Development Schemes of Economic Districts"; V.V. Onikiyenko - on "The Experience in Making Economic Maps of the Industry of the Stanislav Oblast";

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First Conference to Study the Development of Productive Forces
of the Stanislavskiy ekonomicheskij administrativnyy rayon (Sta-
nislav Economic District)

Ya.A. Chernova-Gruzdeva, Voronezhskiy sel'sko-
khozyaystvennyy institut (Voronezh Institute of Agri-
culture), - on "Drawing and Editing a Compound Agri-
cultural Map of a District"; I.F. Mukomel', Kiyevskiy
universitet (Kiyev University), - on the analysis of a
system of statistical and economic indices on the
economic mapping of agriculture; I.V. Nikol'skiy,
MGU, - on the experience in making economic and geo-
graphical studies of the construction industry of
Irkutskaya oblast'; A.B. Krasil'shchikov, V.I. Gortsev,
G.A. Zil'ber, S.M. Voskoboynikova, F.M. Khismatov,
and others lectured on the division into districts;
A.V. Darinskiy discussed the efforts of the geographers
of the Leningradskiy pedagogicheskij institut im. A.I.

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First Conference to Study the Development of Productive Forces
of the Stanislavskiy ekonomicheskii administrativnyy rayon (Sta-
nislav Economic District)

Gertsena (Leningrad Pedagogical Institute Imeni A.I. Gertsen) which resulted in a comprehensive study of the oblasts of the Leningradskiy ekonomicheskii rayon (Leningrad Economic District); T.K. Tolokonnikova, Vologodskiy pedinstitut (Vologda Pedagogical Institute), I.I. Kolyshev and A.A. Girits, Uzhgorodskiy universitet (Uzhgorod University), and others lectured on the economic use of the elements of ~~the~~ nature. The conference passed a resolution on the necessity to intensify economic and geographical studies and mentioned in this connection the MVO USSR and the Ukrainskoye geograficheskoye obshchestvo (Ukrainian Geographical Society).

Card 6/6

CHERNOVA-KONOVALOVA, T.G., zasluzhennyy vrach Tadzhikskoy SSR

Guliston Shanshoeva. Med. sestra 20 no.3:51 Mr '61. (MIRA 14:5)
(SHANSHOEVA, GULISTON)

KUSHNIR, Yu.M.; KABANOV, A.N.; LEVKIN, N.P.; CHERNOVA-STOLYAROVA, Ye, Ye.

Electron spectrograph for the EG-100A electron diffraction camera.
Izv. AN SSSR. Ser. fiz. 27 no.9:1196-1198 S '63. (MIRA 16:9)
(Electron diffraction apparatus) (Electrons--Spectra)

CHERNOVAL, S.Ye.

18(5), 25(1)

AUTHOR:

Dudko, D.A.; Candidate of Technical Sciences, Litvinchuk, M.D., Moser, V. S. and Chernovol, S.Ye., Engineers
The Automatic Welding of the Seams of Thin-walled
Tubing in Carbon Dioxide

TITLE:

Atomatskaya svarka, 1959, No 10, pp 77-80 (USSR)
The article contains the results of tests carried out at the Zaporozhskiy transformer plant and at the Zaporozhskiy transformer plant on the welding of the butt-seams of 31 mm diameter tubing 1-1.5 mm thick. The welding was carried out by means of a small-diameter melt-in electrode and was considerably complicated by the fact that the tubing was slightly deformed at the edges due to the method of cutting. Certain other methods of welding, used where large clearances are required, are mentioned: overhead (Ref 3), vertical (Ref 1) and split electrode welding (Ref 2), the vertical method being eventually selected as most suitable (Fig 1). The actual welding operation was carried out by type SV-10GS and SV-08GS electrode wire (diameter 1-1.2mm) at high speeds (80-90m/hour); the

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speed of delivery of the 1-2mm electrode wire was 15m/hour, the current 110-130 amps, the voltage 18-19 volts, the overhang of the electrode 10-12mm, the amount of carbon dioxide required 7-8 liters/min. Fig 2 shows an external view of the butt-end seams of the tubing, while tests carried out on the seams, as illustrated in Fig 3, confirmed their density as satisfying the necessary requirements. The simple instrument 1-2, shown in Fig 4, was designed by the Institute of Welding of the Academy of Sciences of the USSR and an electric section. The maximum length of tubing treated by this machine is 4,000 + 1,000 mm, and the minimum 800-800mm; power was provided by a .4 kilowatt synchronized motor, the speed of revolution of the rollers varying between 29m/hour and 96m/hour, while a FSH-54 feeding mechanism acted as the welding head, being provided with an auxiliary apparatus to correct the position of the electrode by 25mm horizontally and 15mm vertically. The machine

Card 2/3

can weld 700 seams in a shift. There are 3 photographs, 1 diagram, and 4 Soviet references.
ASSOCIATION: Ordona trudovogo krasnogo inzheneri elektrosvarki inzh. Ye.O. Paton AS USSR (Order of the Red Banner of Labor Institute of Electric Welding inzh. Ye.O. Paton AS USSR) (Dudko, D.A., Litvinchuk, M.D., Moser, V.S.); Zaporozhskiy transformatorny zavod (Zaporozh'sk'ye transformatorny zavod) (Chernovol, S.Ye.)

SUBMITTED: June 12, 1959

Card 3/3

CHERNOVOL, V.S.

Reducing the cost of the transportation of gas in the Kiev
gas-pipeline administration. Gaz. prom. 8 no.12:40-43 '63
(MIRA 18:2)

10(4)

AUTHOR:

Chernoval, V.T.

SOV/41-11-2-16/17

TITLE:

Determination of the Consumption of Fluid for a Percolation from a Channel of Arbitrary Cross Section in an Inhomogeneous Medium

PERIODICAL: Ukrainskiy matematicheskiy zhurnal, 1959, Vol 11, Nr 2, pp 223-225 (USSR)

ABSTRACT:

The channel has the profile $y=f(x)$, where $f(x)$ is piecewise differentiable. The percolation is carried out in a medium consisting of layers of the density T_1, T_2, \dots, T_n , where the coefficients of percolation of the layers satisfy the condition $k_1 \leq k_2 \leq \dots \leq k_n$. Under the last layer there is permeable gravel. For the consumption of fluid Q the author obtains: $2R \leq 2Q \leq 2R(1+2\delta\sqrt{1+\delta^{-2}+2\delta^2})$, where $2R$ is the width of the channel, $Q = \left(\sum_{i=1}^n T_i\right) : \left(\sum_{i=1}^n \frac{T_i}{k_i}\right)$, and $\delta = \sqrt{\frac{H}{2R}(\text{tg } \alpha' + \text{tg } \beta')}$; H is the depth of the channel, $\text{tg } \alpha' = -\min f'(x)$, $\text{tg } \beta' = \max f'(x)$. There are 3 figures, and 3 Soviet references.

SUBMITTED: November 1; 1958
Card 1/1

CHERNOVAL, V.T.

Solution of some problems of nonstationary seepage with the aid
of the EGDA integrator. Ukr.mat.zhur. 13 no.2:235-239 '61.
(MIRA 14:8)

(Fluid mechanics)

(Integrators)

S/271/63/000/001/043/047
D413/D308

AUTHOR: Chernoval, V.T.

TITLE: The application of the ЭГДА (EGDA) integrator to the solution of certain nonstationary problems of liquid filtration

PERIODICAL: Referativnyy zhurnal, Avtomatika, telemekhanika i vychislitel'naya tekhnika, no. 1, 1963, 53, abstract 1B297 (Dokl. 4-y Mezhdvuz. konferentsii po primeneniyu fiz. i matem. modelirovaniya v razlichn. otraslyakh tekhn. Sb. 1, M., 1962, 117-128)

TEXT: The author considers the method of solving problems in the filtration of liquids which are described by differential equations of parabolic type. Use of the method of approximation by linear segments is recommended; this gives, in place of one parabolic-type differential equation, several elliptic equations, the number of which is determined by the number of subdivision intervals. Examples are given with a calculation of the filtration.

Card 1/2

S/271/63/000/001/043/047
D413/D308

The application of the ...

of water through an earthen dam with lowering of the depression curve, and also the problem of the drawing-in of the oil-bearing contour towards working boreholes. 3 figures.

[Abstracter's note: Complete translation]

Card 2/2

CHERNOVAL, V.T. [Chornoval, V.T.]

Method for solving stationary problems in the theory of filtration by means of the EGDA integrator and its extension to heterogeneous media and liquids of different viscosities. Dop. AN URSR no.3:330-333 '62. (MIRA 15:5)

1. Institut matematiki AN USSR. Predstavleno akademikom AN USSR Yu.A.Mitropol'skim [Mytropol's'kyi, IU.O.].
(Soil percolation)

CHERNOVAL, V.T.

Use of an integrator in the method of electrohydrodynamical
analogies for the simulation of nonstationary potential fields.
Trudy Sem. po prikl. mat. 1 no.1:163-174 '63. (MIRA 18:2)

1. Institut matematiki AN UkrSSR, Kiyev.

CHERNOVAL, V.T. [Chornoval, V.T.]

Solution of the nonlinear equation of percolation with the
aid of an electrohydrodynamic analogy integrator. Dop. AN
URSR no.3:293-295 '64. (MIRA 17:5)

1. Institut matematiki AN UkrSSR. Predstavleno akademikom
AN UkrSSR Yu.A. Mitropol'skim [Mytropol's'kyl, IU.O.].

CHERNOVAL, V.T. [Chornoval, V.T.]

Use of the method of electrohydrodynamic analogy in investigating
the motion of the water-oil boundary. Dop. AN URSS no.1:12-
15 '62. (MIRA 15:2)

1. Institut matematiki AN USSR. Predstavleno akademikom AN
USSR Yu.A.Mitropol'skim [Mytropol's'kyi, IU.O].
(Oil reservoir engineering)

CHERNOVALOV, M.; MAR'INA, A.

Rodents and their control. Muk.-elev.prom. 22 no.3:26-27 Mr '56.
(Rodent control) (MLRA 9:7)

CHERNOVALOV, M.D. (Stavropol')

The new Stavropol Territory. Priroda 53 no.1:73-77 '64. (MIRA 17:2)

CHERNOVALOV, M.D. (Stavropol')

Suffosion. Priroda 52 no.3:119 '63.

(MIRA 16:4)

(Stavropol Territory—Erosion)

CHERNOVALOV, M.D.

Physicogeographical regionalization of the Stavropol Plateau
in the zone of the Kuban-Kalauss irrigation system. Vest. Mosk.
un. Ser. 5: Geog. 18 no. 6: 33-39 N-D '63. (MIRA 16:11)

1. Stavropol'skiy pedagogicheskiy institut.

PIROZHKOVA, L.A.; CHERNOVALOV, V.M.

Echinococcal disease of the organs of the abdominal cavity.
Uch. zap. Stavr. gos. med. inst. 8:83-93 '63 (MIRA 17:7)

1. Kafedra obshchey khirurgii (zav. - doktor med. nauk Yu.S. Gilevich) Stavropol'skogo meditsinskogo instituta (rektor-zasluzhenny deyatel' naiki, prof. V.G. Budylin) i 2-ye khirurgicheskoye otdeleniye Stavropol'skoy krayevoy klinicheskoy bol'nitsy (glavnyy vrach Yu.P. Zotov).

MIRZAYEV, M.M.; KUZNETSOV, V.V.; CHEREVATENKO, A.S.; CHERNOVALOVA,
V.P.; TOSHMATOV, L.T.; KUL'KOV, O.P.; AMINOV, Kh.;
~~ZHIVOTINSKAYA~~, S.M.; SHREDER, A.G.; LEPLINSKAYA, A.A.;
PAVLOV, A.K.; SHAPIROV, S.K.; KALMYKOV, S.S.; YAGUDINA,
S.I.; GULYAMOV, Kh.; DZHALALOV, Dzh.[translator];
SAIDAKHMEDOV, S.[translator]; BONDARENKO, M., red.;
KADYROVA, R., red.; BAKHTIYAROV, A., tekhn. red.

[Fruit of Uzbekistan] Frukty Uzbekistana. Tashkent, Gos.
izd-vo UzSSR, 1960. 6 books in fold. Abrikos, persik,
sliva. 84 p. Granat, inzhir, khurma. 40 p. Iablonia,
grusha, aiva. 96 p. Mindal', orekh. 26 p. Vishnia,
chereshnia. 18 p. Zemlianika, malina, smorodina. 36 p.
(MIRA 16:7)

(Uzbekistan--Fruit--Varieties)

ACC NR: A7009567

SOURCE CODE: UR/0281/66/000/006/0012/0018

AUTHOR: Usov, S. V. (Leningrad); Chernovets, A. K. (Leningrad); Kozulin, V. S. (Leningrad)

ORG: none

TITLE: Optimal range of control of controllable reactor with rotating magnetic field

SOURCE: AN SSSR: Izvestiya. Energetika i transport, no. 6, 1966, 12-18

TOPIC TAGS: nuclear reactor, nuclear reactor core

SUB CODE: 18

ABSTRACT: An analysis of problems connected with selection of the control range of a controllable reactor designed for installation in power production systems. It is discovered that with any given range of control, capital investments and operating expenses are 5 to 10% higher for a reactor with a removable core. The range of control economically most suitable varies depending on whether the reactor is used in conjunction with a static compensating device (condenser) or separately. The economic indicators of a controlled reactor with oil cooling are considerably better than for a reactor with air cooling. Calculation show that the cost of copper, iron and insulation as well as losses of copper increase for a controllable reactor with a rotating field, while only the loss of steel decreases. Tables are presented on the losses, capital investment and operating expenses required for a controllable reactor. Orig. art. has: 8 formulas,

4 figures and 1 table. [JPRS: 40,102]

Card 1/1

UDC: 621.316.935:621.3.072.32

0930 10 93

CHERNOVETS, A.K., inzh.

Installation of batteries of shunting condensers. Izv. vys. ucheb.
zav.; energ. 3 no. 12:107-111 D '60. (MIRA 14:2)

1. Leningradskiy politekhnicheskoy institut imeni M.I. Kalinina.
Predstavlena kafedroy elektricheskikh stantsiy.
(United States—Electric power distribution)
(Condensers (Electricity))

CHERNOVETS, A.K., inzh.

Boosting of shunting condenser batteries. Izv. vys. ucheb. zav.;
energ. 6 no.4:15-21 Ap '63. (MIRA 16:5)

1. Leningradskiy politekhnicheskoy institut imeni M.I.Kalinina.
Predstavlena kafedroy elektricheskikh stantsiy.
(Electric power distribution) (Condensers (Electricity))

L 39026-66

ACC NR: AP6029600

SOURCE CODE: UR/0281/66/000/003/0052/0059

AUTHOR: Usov, S. V. (Leningrad); Chernovets, A. K. (Leningrad); Kozulin, V. S. (Leningrad)

ORG: none

TITLE: Mutual effect between the A.C. winding and the control winding of a reactor with rotating magnetic field

SOURCE: AN SSSR. Izvestiya. Energetika i transport, no. 3, 1966, 52-59

TOPIC TAGS: rotating magnetic field, alternating current

ABSTRACT: The article describes some characteristics of a controlled reactor with rotating magnetic field, as designed by M. S. LIBKIND. The basic feature of this design is that the control winding is distributed in the same slots with the three-phase winding and there is no removable rotor; the magnetic structure consists of a laminated slotted member inside and a stator yoke outside. The total alternating EMF induced in the control winding is found by adding up the fundamental and all harmonics except the third and its multiples (which are zero). Additional copper losses in the control coils located in common slots are due to slot leakage and resulting eddy currents in the conductors; these losses are calculated under the usual simplifying assumptions. As to the A. C. winding, special consideration is given here to the even harmonics: while the 6th, 12th... harmonics vanish, it appears not possible to eliminate completely any other even harmonic due to magnetization. The article deals also with reactor power, which is expressed as a function of loading, reactor dimensions and the number of poles. It is shown, on basis of the foregoing analysis, how the number of poles influences the performance or the design and what role the control winding plays in this relation. Orig. art. has 5 figures, 7 formulas and 1 table. [JPRS: 37,061]

SUB CODE: 20 / SUBM DATE: 22Jan66 / ORIG REF: 002

Card 1/1

CHERNOVETSKIY, M. (g.Vil'nyus)

Calculating the cost of collective farm products. Vop.ekon.no.7:
115-120 JI '56. (MLRA 9:9)
(Agriculture--Economic aspects) (Collective farms)

L 08272-67 - EWT(1)

SCTB

DD/GD

ACC NR: AT6036467

SOURCE CODE: UR/0000/66/000/000/0012/0013

AUTHOR: Agre, A. L.; Nilovskaya, N. T.; Tsitovich, S. I.; Bokovaya, M. H.
Varlamov, V. F.; Chernovich, I. L.

36

B+1

ORG: none

TITLE: Experimental investigation of the possibility of cultivating higher plants on a nutrient medium of biological mineralizers under conditions of a closed gas cycle (Paper presented at conference on problems of space medicine held in Moscow from 24-27 May 1966)

SOURCE: Konferentsiya po problemam kosmicheskoy meditsiny, 1966. Problemy kosmicheskoy meditsiny. (Problems of space medicine); materialy konferentsii, Moscow, 1966, 12-13

TOPIC TAGS: life support system, closed ecological system, plant physiology, photosynthesis, plant metabolism

ABSTRACT:

The creation of a closed cycle of substances for experimental ecological systems is unthinkable without a stage of recycling human metabolic wastes, in order to transform organic substances into elements for mineral feeding of lower and higher autotrophs.

Card 1/3

L 08272-67

ACC NR: AT6036467

One of the possible and promising methods of mineralizing human metabolic wastes is to use aerobic oxidation of organic materials with the aid of biocenosis of microorganisms, carried out in a biological mineralization chamber. At the present time, the aeration tank (aerotank) as a biological mineralization chamber is highly developed from the point of view of both engineering and construction and is quite useful for conducting experiments with short closed cycles.

In these experiments (the very first), two linked but contradictory processes were utilized. The first process was the synthesis of organic compounds from inorganic ones using the energy of light (photosynthesis of higher plants). The second process was the biochemical oxidation of organic substances (mineralization of the urine and fecal mixture in the aeration chamber).

Higher plants (head cabbage) were grown for a period of twelve days in an open assimilation chamber on a urine-fecal liquid which had been mineralized biologically. After this, they were grown under conditions of a closed exchange of a gas-air mixture between the assimilation chamber and the aeration tank for periods of four and eleven days.

L 08272-67

ACC NR: AT6036467

During the process of biological mineralization, a certain amount of CO₂ gas was extracted from the aeration tank and allowed to pass into the assimilation chamber with the higher plants. In turn, oxygen which had been produced by the plants passed into the aeration tank. These experiments with the "assimilation chamber-aeration tank" system made it possible to establish a practical gas exchange between higher plants and the biocenosis of mineralizing microorganisms. The experiments also established the possibility of using a mineralized urine-fecal liquid as a nutrient medium for higher plants. In the course of these experiments a somewhat lowered photosynthetic rate was observed. It is assumed that this can be explained by the action of some kind of gaseous micro-admixtures which are metabolites of plants and of activated sludge.

Experimentation with short closed cycles of the "assimilation chamber-aeration tank" type showed that they are practical for obtaining information necessary for the creation of closed ecological system.

[W.A. No. 22; ATD Report 66-116]

SUB CODE: 06 / SUBM DATE: 00May66

Cord 3/3 *eglu*

CHERNOVITSKIY, B.

Combine driving as a secondary trade. Prof.-tekh. obr.
18 no.8:17 Ag '61. (MIRA 14:9)
(Farm mechanization—Study and teaching)

CHERNOVSKIY, K.; AL'TERMAN, A.

Improve the hygienic protection of the atmosphere in the cities
of Tajikistan. Zdrav. Tadzh. 9 no.2:6-10 Mr-Apr '62.
(MIRA 15:7)

1. Glavnyy gosudarstvennyy sanitarnyy inspektor Ministerstva
zdravookhraneniya Tadzhikskoy SSR (for Chernovskiy). 2. Starshiy
gosudarstvennyy sanitarnyy inspektor Ministerstva zdravookhraneniya
Tadzhikskoy SSR (for Al'terman).

(TAJIKISTAN—AIR—POLLUTION)

L 47374-66 EWT(d)/EWT(1)/EWP(v)/T-2/EWP(k)/EWP(h)/EWP(1) WH

ACC NR: AP6029071

SOURCE CODE: UR/0413/66/000/014/0128/0129

INVENTOR: Gerlovin, L. I.; Chernovin, N. A.; Averin, V. A.; Nagibin, A. Ya;
Torgashov, A. I.; Aleksandrovskiy, A. A.; Sigachev, V. P.; Mikhaylovskiy, M. M.;
Mironov, M. I.

56
B

ORG: none

TITLE: ¹⁾Valve with a hydraulic or pneumatic piston drive. Class 47, No. 184084
 [announced by the Special Design Office of the Baltic Boiler Building Factory im.
Sergo Ordzhonikidze (Spetsial'noye konstruktorskoye byuro kotlostroyeniya Baltiyskogo
zavoda)]

SOURCE: Izobret prom obraz tov zn, no. 14, 1966, 128-129

TOPIC TAGS: valve, hydraulic piston drive, pneumatic piston drive, *hydraulic device,*
pneumatic device, piston engine

ABSTRACT: The proposed valve with a hydraulic or pneumatic piston drive is designed
 for opening and closing the through flow-section of main and auxiliary pipings. In
 order to synchronize the opening and closing of both pipings, its control piston is
 provided with an annular groove, which, in the open valve position, connects the

Card 1/2

UNG: 621.646.23-82-85

L 47374-66

ACC NR: AP6029071

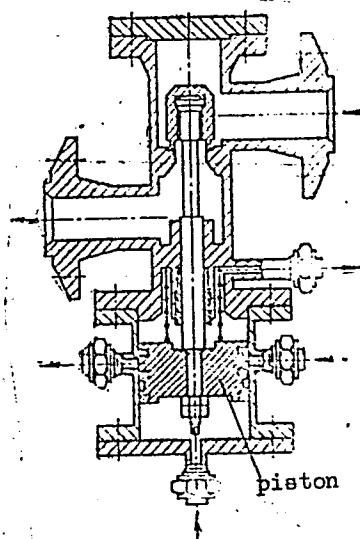


Fig. 1. Piston valve

intake and outlet cavities of the auxiliary piping (see Fig. 1). Orig. art. has:
1 figure. [AV]

SUB CODE: 21/A/SUBM DATE: 11May65/

Card 2/2 mjs

CHERNOVOL, A. V.

The influence of magnification on the form of the temper carbon inclusions. Yu. N. Taran and A. V. Chernovol (I.V. Stalin Aer. Inst., Dnepropetrovsk). *Doklady Akad. Nauk. Ukr. R.S.S.R.* 1954, 351-4 (Russian summary). —Microphotographs are presented for white iron tempered at 1050°, which contained 0, 0.018, 0.047, and 0.078 % Mg. It can be seen that the temper carbon (I) changes its shape from the branched, spiderlike forms at the lowest Mg values to equiaxial polyhedra at the higher ones. It is, therefore, suggested to use the appearance of I under the microscope as a replacement for the Mg analysis. Werner Jacobson.

USSR .

✓ Shape of inclusions of temper carbon in magnesium cast
 irons. K. P. Bunin and A. V. Chernovol. *Doklady Akad.
 Nauk S.S.S.R.* 23, 785-7 (1954). To det. why temper-
 carbon inclusions are sometimes not spherical, a study was
 made of white cast irons of compn. C 2.03, Si 0.60, Mn 0.30,
 P 0.03, S 0.009%, with 0.047, 0.070, and 0.097% Mg
 annealed at 850°, 950°, and 1050°. The white cast iron
 was melted in a high-frequency elec. furnace and was cast
 in earthen molds as cylindrical rods 20 mm. in diam. Mod-
 ification was done with 95.93% Mg. The course of graphite
 formation was followed by removing specimens periodically
 from the furnace and examg. them microscopically with
 polarized light to det. the direction of growth of the radial
 crystallites composing a nodule. Equiaxed nodules formed
 only when growth occurred in austenite. The part of a
 growing nodule in contact with a carbide particle did not
 grow. Graphite nodules grew faster in the primary austen-
 ite that was produced during solidification of the white
 iron than in the secondary austenite, which was produced
 from carbide particles during annealing. These effects
 were consistent with the view previously advanced that the
 rate of graphitization is controlled by the rate of diffusion
 of matrix atoms away from the nodule rather than by the
 rate of diffusion of C atoms towards the nodule.
 A. G. Guy

M LTH

CHERNOVOL A.V.
BUNIN, Konstantin Petrovich; TARAN, Yuriy Nikolayevich; CHERNOVOL, Arkadiy Vasil'yevich; SVECHNIKOV, V.N., redaktor; IMAS, E.L., redaktor; BAKHUTINA, N.P., tekhnicheskiiy redaktor.

[Cast iron with globular graphite] Chugun s sharovidnym grafitom. Kiev, Izd-vo Akad.nauk USSR, 1955. 96 p.(MLRA 8:11)

1. Deystvitel'nyy chlen Akademii Nauk Ukrainskoy SSR(for Svechnikov)

(Cast iron)

CHERNOVOL, A. V.

"Investigation of the process of graphitization of white cast iron modified by magnesium." Min Higher Education Ukrainian SSR. Dnepropetrovsk Order of Labor Red Banner Metallurgical Institute I. V. Stalin. Dnepropetrovsk, 1956. (Dissertation for the Degree of Candidate in Technical Science).

SO: Knizhnaya letopis', No. 16, 1956

CHERNOVOL, A.V. [Chornovol, A.V.]

Effect of tempering and low-temperature annealing on the graphitization of white magnesium iron [with summary in English]. Dop. AN URSS, no.4: 359-361 '57. (MIRA 11:3)

1. Institut mashinovedeniya AN URSS. Predstavleno akademikom AN URSS V.N. Svechnikovym [V.M. Svechnikovym].
(Iron-magnesium alloys--Metallurgy)

CHERNOVOL, A. V.

TARAN, Yu.N.; CHERNOVOL, A.V.

On the graphitization kinetics of white magnesium irons [with
summaries in Russian and English]. Dop. AN URSS no.3:251-255 '57.
(MLRA 10:9)

1. Dnipropetrovs'kiy metalurgiyinyi institut. Predstavleno akademikom
Akademii nauk USSR V.N.Svechnikovym.

(Iron-magnesium alloys)

CHERNOVOL, A.V.

129-10-5/12

AUTHOR: Chernovol, A.V., Candidate of Technical Sciences.

TITLE: On the crystallisation of above-eutectoidal magnesium-inoculated grey iron. (O kristallizatsii zaevtekticheskogo serogo magniĭevogo chuguna.)

PERIODICAL: "Metallovedeniye i Obrabotka Metallov" (Metallurgy and Metal Treatment), 1957, No.10, pp.21-22 (U.S.S.R.)

ABSTRACT: Morrogh, H. and Williams, W. investigated the solidification of above-eutectoidal irons treated with cerium and magnesium and they expressed the assumption that for this case, the graphite can form directly from the liquid and also by the decomposition of the cementite. However, they did not have available reliable experimental results. The author of this paper studied the process of formation of graphite in above-eutectoidal, magnesium-inoculated iron containing: 4.73% C, 0.85% Si, 0.02% Mn, 0.002% P, traces of S and 0.078% Mg. This was produced by melting electrolytic iron in a graphite crucible inside a high frequency furnace, inoculation with Mg and 75% ferro-silicon; the liquid metal was pured into magnesite crucibles and quenched in cold water at various stages of the solidification. It was found that spheroidal graphite forms directly from the melt and not as a result of decomposition of the cementite, as was assumed by Morrogh and Williams.

Card 1/2

129-10-5/12

On the crystallisation of above-eutectoidal magnesium-inoculated grey iron. (Cont.)

During solidification, the melt consists solely of liquid, austenite and graphite. Compact graphite inclusion of equiaxial shape is obtained at the very early stages of growth during direct contact with the liquid melt and is maintained until complete solidification of the cast iron has occurred. Formation and growth of the graphite inclusions in above-eutectoidal, magnesium-inoculated iron during eutectoidal transformation proceed in the same way as in below-eutectoidal and eutectoidal magnesium cast iron.

There are 7 micro-photographs (insert between pp.40-41) and 8 references, 3 of which are Slavic.

ASSOCIATION: Institute of Mechanical Engineering Ac.Sc. Ukraine.
(Institut Mashinovedeniya AN USSR)

AVAILABLE: Library of Congress

Card 2/2

Chernovol, A.V.

129-4-10/12

AUTHORS: Chernovol, A.V., and Taran, Yu. N., Candidates of Technical Sciences.

TITLE: Influence of magnesium on the kinetics of graphitization of white iron. (Vliyaniye magniya na kinetiku grafitizatsii belogo chuguna).

PERIODICAL: Metallovedeniye i Obrabotka Metallov, 1958, No.4, pp. 49-51 + 2 plates (USSR).

ABSTRACT: Contradictory views exist on the kinetics of graphitization of magnesium inoculated cast irons and this is attributed to the fact that insufficient experimental data are available on the subject. In this paper the results are given of investigations on the kinetics of graphitization of white iron with various quantities of magnesium. The iron contained: 3% C, 0.52% Si, 0.32% Mn, 0.021-0.002% S, 0.09% P and also the following magnesium contents: 0.018, 0.047, 0.076 and 0.093% respectively. The iron was produced in a high frequency furnace. Inoculation was effected by magnesium of 95.23% purity in the form of 20 mm dia. cylindrical rods cast into earthen moulds. Iron with a reduced Si content was chosen for the purpose of preventing formation of graphite during the cooling of the castings and this permitted

Card 1/3

129-4-10/12

Influence of magnesium on the kinetics of graphitization of white iron.

investigation in greater detail of the structural changes taking place during annealing. Graphitization was effected at 1050, 950 and 850°C and, for reducing decarburisation, the specimens were annealed in graphite crucibles inside a mixture of graphite and iron chips. Subsequently, the specimens were retrieved from the furnace and cooled in air. The degree of graphitization was determined from the decrease in the density of the metal and also from data of microscopic analysis. The results are described, giving micro-photographs and also graphs of the distribution of the graphite inclusions across the cross section of white iron without magnesium and with 0.093% Mg after annealing for five hours at 1050°C (Fig.3) as well as kinetic curves of the graphitization of white iron annealed at 1050°C without magnesium and with 0.093% Mg (Fig.4). The obtained experimental data do not confirm the hypotheses of formation of spheroidal graphite which are based on the assumption of formation of low stability carbides in magnesium inoculated iron; the authors did not observe any sharp slowing down in the graphitization of magnesium

Card 2/3 inoculated iron referred to by Guterman, S.G. et alii

129-4-10/12
Influence of magnesium on the kinetics of graphitization of white iron.

(Ref.3) and Landa, A.F. (Ref.4).
There are 4 figures and 5 references - 4 Russian,
1 English.

ASSOCIATION: Institute of Engineering Technology and Agricultural
Mechanics, Ac. Sc. Ukrainian SSR.
(Institut mashinovedeniya i s.-kh. mekhaniki AN USSR)

AVAILABLE: Library of Congress.

Card 3/3

AUTHOR: Chernovol, A.V.

21-58-5-18/28

TITLE: On the Effect of Silicon on the Form of Graphite Inclusions in Magnesium Cast Iron (O vliyanii kremniya na formu grafitnykh vklyucheni y v magniyevom chugune)

PERIODICAL: Dopovidi Akademii nauk Ukrain's'koi RSR, 1958, Nr 5, pp 537-539 (USSR)

ABSTRACT: Silicon is one of the elements which strongly accelerates the graphitization of cast iron. Available data as to the effect of silicon on the form of graphite inclusions in magnesium cast iron are contradictory and insufficient. To clear up this effect, the author undertook a special investigation. Using the method of microscopic analysis this effect has been investigated. It turned out that an increase in the silicon content up to 6.8 or 6.85% (in whatever way it was introduced into the cast iron) does not alter the form of graphite inclusions but leads only to an increase of their number. Thereby Stepin's results [Ref 1] have not been confirmed. There are 3 photos and 3 references. 2 of which are Soviet and 1 Japanese.

ASSOCIATION: Institut mashinovedeniya AN UkrSSR (Institute of Machine Study of the AS UkrSSR)

21-58-5-18/28

On the Effect of Silicon on the Form of Graphite Inclusions in Magnesium Cast Iron

PRESENTED: By Member of the AS UkrSSR, V.N. Svechnikov

SUBMITTED: November 10, 1957

NOTE: Russian title and Russian names of individuals and institutions appearing in this article have been used in the transliteration

1. Cast iron--Impurities
2. Silicon--Physical effects

Card 2/2

SOV-21-58-8-7/27

AUTHORS: Bunin, K.P., Corresponding Member of the AS UkrSSR, Chernovol, A.V.

TITLE: On the Process Controlling the Rate of Graphite Growth in Cast Iron (O protsesse, kontroliruyushchem skorost' rosta grafita v chugunakh)

PERIODICAL: Dopovidi Akademii nauk Ukrain's'koi RSR, 1958, Nr 8, pp 831-834 (USSR)

ABSTRACT: The growth of graphite in cast iron is connected with the diffusion of carbon and evacuation of the matrix atoms from the graphitization front. In order to find out which of these two processes controls the rate of graphite growth, the effect of a preliminary deformation on the rate of carbon diffusion and the rate of graphite growth were compared. Deformation leads to acceleration of graphite growth with subsequent graphitization. An investigation of the effect of preliminary deformation on the rate of cast iron decarbonization in hydrogen led to the conclusion that the rate of carbon diffusional transfer in the carbon deformed matrix is slowed down. On the basis of this fact, the inference was drawn that carbon diffusion does not control the rate of graphite growth.

Card 1/2

SOV-21-58-8-7/27

On the Process Controlling the Rate of Graphite Growth in Cast Iron

There is 1 photo, 2 graphs and 9 references, 8 of which are Soviet and 1 Swedish.

ASSOCIATION: Institut chernoy metallurgii AN UkrSSR (Institute of Ferrous Metallurgy of the AS UkrSSR) and Institut mashinovedeniya AN UkrSSR (Institute of Machine Study of the AS UkrSSR)

SUBMITTED: March 3, 1958

NOTE: Russian title and Russian names of individuals and institutions appearing in this article have been used in the transliteration.

1. Cast iron--Properties 2. Graphite--Metallurgical effects

Card 2/2

SOV/129-59-2-8/16

AUTHOR: Chernovol, A.V., Candidate of Technical Sciences

TITLE: Crystallisation of Iron Treated with Strontium
(Kristallizatsiya chuguna, obrabotannogo strontsiyem)

PERIODICAL: Metallovedeniye i Termicheskaya Obrabotka Metallov,
1959, Nr 2, pp 37 - 39 + 2 plates (USSR)

ABSTRACT: Two heats were produced in an electric induction furnace from a mixture of electrolytic iron, silicon and graphite. The first heat was eutectic iron containing 3.8% C, 1.5% Si, 0.01% Mn with traces of P, S and 0.068% Sr. The second one was a hypo-eutectic steel with 2.9% C, 1.8% Si, 0.01% Mn, traces of P, S and 0.072% Sr. 0.8% metallic strontium was introduced into the liquid iron at 1 450 °C. The obtained results do not confirm the results published by De-Sy and Collette (Refs 1,2) and Stepin (Ref 3). It was found that as a result of strontium addition, the shape of the graphite changes from a branched, crablike one into a more compact "blot"-shape. Presence of 0.068 to 0.072% Sr did not bring about formation of spheroidal graphite during solidification and during annealing of the iron. Since addition of up to

Card1/2

Crystallisation of Iron Treated with Strontium SOV/129-59-2-8/16

0.8% Sr does not ensure formation of spheroidal graphite, this element cannot substitute magnesium. In iron treated with Sr, the graphite forms directly from the liquid during eutectoidal transformation. The kinetics and the mechanism of the growth of graphite inclusions in ordinary and in strontium-inoculated iron are identical. There are 1 figure and 6 references, 4 of which are Soviet, 1 French and 1 English.

ASSOCIATION: Institut mashinovedeniya AN USSR
(Institute of Mechanical Engineering of the
Ac.Sc. Ukrainian SSR)

Card 2/2

CHERNOVOL, A.V. [Chornovol, A.V.]; PANCHINA, T.A. [Panchyna, T.O.]

Formation of graphite in pores during the annealing of magnesium
cast iron. Dop. AN USSR no. 11:1519-1521 '60. (MIRA 13:11)

1. Institut liteynogo proizvodstva AN USSR. Predstavleno akademikom
AN USSR V.N. Svechnikovym.

(Graphite)

(Cast iron--Metallurgy)

BRAUN, M.P., doktor tekhn. nauk, prof., red. (Kiev); DEKHTYAR, I.Ya., doktor tekhn. nauk, red.; DRAYGOR, D.A., doktor tekhn. nauk, red.; KAMENICHNYI, I.S., inzh., red.; MARKOVSKIY, Ye.A., kand. tekhn. nauk, red.; PERMYAKOV, V.G., inzh., doktor tekhn. nauk, red. (Kiev); CHERNOVOL, A.Y., kand. tekhn. nauk, red. (Kiev); SOROKA, M.S., red.; GORNOSTAYPOLOVSKAYA, M.S., tekhn. red.

[Metals and their heat treatment] Metallovedenie i termicheskaya obrabotka. Moskva, Gos.nauchno-tekhn. izd-vo mashinostroitel. lit-ry, 1961. 336 p. (MIRA 14:5)

1. Nauchno-tekhnicheskoye obshchestvo mashinostroitel'noy promyshlennosti. Kiyevskoye oblastnoye pravleniye.
(Metallography) (Metals--Heat treatment)

DUBROV, V.V.; CHERNOVOL, A.V. [Chornovol, A.V.]

Effect of ferrosilicon additions on graphite formation in
magnesium cast iron. Nauk. pratsi Inst. lyv. vyrob. AN URSSR

8:57-70 '59.

(MIRA 14:1)

(Cast iron—Metallurgy)

(Ferrosilicon)

CHERNOVOL, A. V.

PHASE I BOOK EXILICATION SOV/5911
Nauchno-tekhnicheskoye obshchestvo mashinostroyeniya i metal'noy promyshlennosti.
Kiyevskoye oblastnoye pravleniye.

Metallovedeniye i tekhnicheskaya obrabotka (Fizicheskoye i khimicheskoye
obshchestvo metallov) Moscow, Mashgiz, 1961. 130 p. Errata slip
inserted. 5,000 copies printed.

Sponsoring Agency: Gosudarstvennyy nauchno-tekhnicheskyy komitet
Sovetskogo Ministra Obrashcheniya. Nauchno-tekhnicheskoye obshchestvo
mashinostroyeniya i metal'noy promyshlennosti. Kiyevskoye oblastnoye
pravleniye.

Editorial Board: M. P. Braun, Doctor of Technical Sciences, I. Ya.
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skiy, Candidate of Technical Sciences, V. G. Peryakov, Doctor
of Technical Sciences, and A. V. Chernovol, Candidate of Tech-
nical Sciences. Ed.: M. S. Sorok, Tech. Ed.: M. S.
Gornatayevskaya, Chief Ed.: Mashgiz (Southern Dept.): V. K.
Serdnyuk, Engineer.

Card 1/10

PURPOSE: This collection of articles is intended for scientific
workers and technical personnel of research institutes, plants,
and schools of higher technical education.

COVERAGE: The collection contains papers presented at a convention
held in Kiyev on problems of physical metallurgy and methods of
the heat treatment of metals applied in the machine industry.
Phase transformations in metals and alloys are discussed, and
results of investigations conducted to ascertain the effect of
heat treatment on the quality of metal are analyzed. The pos-
sibility of obtaining metals with given mechanical properties
is discussed, as are problems of steel brittleness. The col-
lection includes papers dealing with kinetics of transformations,
heat treatment, and properties of cast iron. No personalities
are mentioned. Articles are accompanied by references, mostly
Soviet.

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CHERNOVOL, A.V. [Chernovol, A.V.]

Modification of magnesium cast iron. Dop.AN URSR no.2:183-187 '61.
(MIRA 14:2)

1. Institut liteynogo proizvodstva AN USSR. Predstavleno akademikom
AN USSR K.F.Starodubovym.
(Cast iron—Metallurgy)

S/021/61/000/007/007/011
D205/D306

AUTHORS: Chornovol, A.V., Taran, Yu.M., and Panchina, T.O.

TITLE: Influence of calcium on the shape of graphite
inclusions in Fe - C - Si alloys

PERIODICAL: Akademiya nauk Ukrayins'koyi RSR, Dopovidi, no. 7,
1961, 911 - 914

TEXT: After discussing the effects of modifiers on the properties of cast iron, the authors express the opinion that the most active are the alkaline earth metals, Zn and Cd, belonging to the odd series of the same group have no effect on the formation of spheroidal graphite inclusions, the presence of which greatly affects the quality of cast iron. Previously, best results were obtained with a mixture of calcium and magnesium, as modifiers, but they were tested on pig-iron only. The subject of their experiments was the study of the modifying effect of Ca on relatively pure Fe-C-Si alloys. They were obtained by remelting 150 gr. of cast iron with

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Influence of calcium on ...

S/021/61/000/007/007/011
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crystalline silicon (99.85 %) in a graphite crucible in a Tauman oven. The alloy was modified with metallic Ca (2.5 and 5 %) at 1560°C. The solidification and cooling of samples was carried out in crucibles together with the oven in open air. The cooling curves were obtained by means of a platinum-platinum-rhodium thermocouple connected to a recording potentiometer. Samples were cut through the vertical axis and the whole cross-section was microscopically examined, the calcium content in different parts of samples being determined by spectral analysis. The cooling curves [Abstractor's note: Not given] prove that temperatures at the beginning of eutectic crystallization in both unmodified and modified samples are almost identical and that solidification in both cases takes place at the same degree of supercooling. The structure of graphite inclusions is shown on photographs. It is seen that the graphite inclusions change shape from the surface layer to the inner part of samples: near the surface the amount of spheroidal inclusions is the largest; they are covered with films of austenite and are accompanied by clusters of fine laminated "supercooled" graphite. In the intermediate zone, between the surface and the

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Influence of calcium on ...

S/021/61/000/007/007/011
D205/D306

sample center, these spherical inclusions change to starlike ones, formed by radial aggregates of pyramidal crystals, separated by a metallic matrix. In the central portion graphite forms coarsely laminated inclusions with some compact ones of irregular shape. In both alloys (that with 2.5 and that with 5 % Ca) the general picture is similar, the only difference being a greater number of spheroidal particles near the surface of the alloy modified with 5 % Ca. The results of microscopic study prove that the formation of the spherical graphite inclusions to some extent depends on the rate of cooling; but these inclusions are always accompanied by flake formations, which affect most unfavorably the mechanical properties of cast iron. Therefore calcium by itself cannot be used as modifier for improving cast iron. V.M. Khokholkov assisted in casting the samples. There are 1 table, 3 figures and 7 references: 5 Soviet-bloc and 2 non-Soviet-bloc. The two references to the English-language publications read as follows: R. Collette, A. DeSy, Foundry Trade Journal, 80, 495, 1789, 1956; R.A. Grange, F.T. Shortseve, D.C. Hilty, W.O. Binder, G.T. Motock, and C.M. Offen-

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Influence of calcium on ...

S/021/61/000/007/007/011
D205/D306

hauer; "Boron, Calcium, Columbium and Zirconium in Iron and Steel"
U.S.A., 1957, 89.

ASSOCIATION: Institut litvarnoho virobnitstva AN URSR (Institute
of Foundry Industry Academy of Sciences, UkrSSR)
Dnepropetrovs'kyy metalurgynyy institut (Institute
of Metallurgy of Dnepropetrovsk)

SUBMITTED: November 2, 1960

PRESENTED: by V.M. Svechnikov, Member of AS UkrSSR

Card 4/4

CHERNOVOL, A.V. [Chornovol, A.V.]

Graphitization kinetics of white iron modified by calcium. Dop.
AN URSR no.11:1474-1478 '61. (MIRA 16:7)

1. Institut liteynogo proizvodstva AN UkrSSR. Predstavleno
akademikom AN UkrSSR V.N.Svechnikovym [Sviechnikov, V.M.].
(Cast iron) (Graphitization) (Calcium)

CHERNOVOL, A.V. [Chornovol, A.V.]; PANCHINA, T.A. [Panchyna, T.O.]

Kinetics of the crystallization of iron-carbon-silicon alloys.
Dop. AN URSR no.4:478-481 '62. (MIRA 15:5)

1. Institut liteynogo proizvodstva AN USSR. Predstavleno
akademikom AN USSR V.N.Svechnikovym [Sviechnikov, V.M.].
(Iron-carbon-silicon alloys) (Crystallization)

CHERNOVOL, A.V.

Magnesium cast iron inoculation with calcium silicide and
ferrosilicon. Struk.i svois.lit.splav. no.1:60-66 '62.

(Cast iron--Metallography) (Calcium silicide) (Ferrosilicon) (MIRA 15:5)

BRAUN, Mikhail Petrovich; VINOKUR, Bertol'd Bentsionovich; CHERNYY, Viktor Gavrilovich; CHERNOVOL, Arkadiy Vasil'yevich; KOSTYRKO, Oleg Stepanovich; ALEKSANDROVA, Natal'ya Pavlovna; KRUKOVSKAYA, Galina Nikolayevna; TIKHONOVSKAYA, Larisa Dmitriyevna; LYASHENKO, Lyudmila Aleksandrovna; FIKSEN, N.V., kand. tekhn. nauk, otv. red.; POKROVSKAYA, Z.S., red.; KADASHEVICH, O.A., tekhn. red.

[Alloys with addition elements] Legirovannyye splavy. [By] M.P. Braun i dr. Kiev, Izd-vo AN Ukr.SSR, 1963. 142 p.

(MIRA 16:8)

(Alloys--Metallurgy)
(Foundries--Equipment and supplies)

BRAUN, Mikhail Petrovich; VINOKUR , Bertol'd Bentsionovich;
CHERNOVOL, Arkadiy Vasil'yevich; CHERNYY, Viktor
Gavrilovich; ALEKSANDROV, Anatoliy Grigor'yevich;
KOSTYRKO, Oleg Stepanovich; ALEKSANDROVA, Natal'ya
Pavlovna; LYASHENKO, Lyudmila Aleksandrovna;
MATYUSHENKO, Nelli Ivanovna; FIKSEN, N.V., kand. tekhn.
nauk, otv. red.; POKROVSKAYA, Z.S., red.; DAKHNO, Yu.B.,
tekhn. red.

[Structural and heat-resistant alloys] Konstruktsionnye
i zharoprochnye splavy. Kiev, Izd-vo AN USSR, 1963. 149 p.
(MIRA 17:3)

1. Akademiya nauk URSS, Kiev. Instytut lyvarnoho vyrob-
nytstva.

CHERNOVOL, A.V.; TARAN, Yu.N.

Inoculation of cast iron by zinc. Lit.proizv. no.4:19-20 Ap '63.

(Cast iron—Metallurgy)

(Zinc)

(MIA 16:4)

TARAN, Yu.N.; CHERNOVOL, A.V.

Effect of the rate of cast iron cooling on the efficiency of
inoculants. Izv. vys. ucheb. zav.; chern. met. 6 no.9:181-
184 '63. (MIRA 16:11)

1. Dnepropetrovskiy metallurgicheskiy institut.

BRAUN, Mikhail Petrovich; VINOKUR, Bertol'd Bentsionovich; CHERNOVOL,
Arkadiy Vasil'yevich; CHERNYI, Viktor Gavrilovich; ~~ALEKSANDROV~~,
~~ANATOLIY~~ Grigor'yevich; KOSTYRKO, Oleg Stepanovich; ALEKSANDROVA,
Natal'ya Pavlovna; LYASHENKO, Lyudmila Aleksandrovna; ~~MATYUSHENKO~~,
Nelli Ivanovna; FIKSEN, N.V., kand. tekhn. nauk, otv. red.;
POKROVSKAYA, Z.S., red.

[Structural and heat-resistant alloys] Konstruktsionnye i zharo-
prochnye splavy. Kiev, Izd-vo AN USSR, 1963. 149 p. (MIRA 17:3)

1. Akademiya nauk URSS, Kiev. Instytut liteynogo proizvodstva.

TARAN, Yu.N. [Taran, IU.M.]; CHERNOVOL, A.V. [Chornovol, A.V.]

Formation of spherulitic graphite. Dop. AN URSR no.11:1486-
1489 '64. (MIRA 18:1)

1. Dnepropetrovskiy metallurgicheskiy institut i Institut
problem lit'ya AN UkrSSR.

CHERNOVOL, I. (Poltava)

Difficulties are not an obstacle. Okhr.truda i sots.strakh.
3 no.6:53-54 Je '60. (MIRA 13:7)
(Poltava Province--Farm mechanization--Safety measures)

ACCESSION NO: AP4011133

S/0182/64/000/001/0013/0016

AUTHOR: Chernovol, N. A.

TITLE: Stamping of liquid metal in a hydraulic press

SOURCE: Kuznechno-shtampovochnoye proizvodstvo, no. 1, 1964, 13-16

TOPIC TAGS: stamping, liquid metal stamping, hydraulic stamping press, press, stamping press, CBJ-150/3 stamping press, Br.AZhMts 10-3-1.5 brass, brass, brass melting, melting device MGP-52, MGP-52 melting device, 3Kh2V8 steel

ABSTRACT: This work was carried out in order to produce small items (weight up to 0.5kg) by liquid metal pressing in a usual stamping press. The equipment for this process is shown in Fig. 1 of the Enclosure. A measured portion of liquid metal is poured into the die (3), and a pressing plunger (2) is lowered to the metal surface (1). The pressure is maintained for the time necessary to allow metal crystallization, and the solidified metal item is forced out of the die by the pusher (4). In this work the die and the plunger are heated to 100-150C before the metal is poured. It was established that: 1) 3000-5000 kg/cm² pressure resulted in a high metal density and in the improvement of mechanical properties; 2) the time the

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ACCESSION NO: AP4011133

metal remains under pressure should be varied for different wall thicknesses of the dies and for the form of the metal items; 3) experiments made with the liquid stamping of brass Br.AZhMts 10-3-1.5 melted in the MGP-52 device showed that: a) usual machine oil or oil with 5% graphite was a proper lubricant; b) metal should be poured into dies only after the excess of lubricant is burnt; c) excessive amount of lubricant led to the formation of gas cavities on the metal surface; d) the structure of the stamped brass was finely crystalline with a very thin layer of the columnar structure at the surface; e) the optimal temperature of brass pouring was 70-100C higher than its melting temperature. "N. F. Groznetskiy, I. M. Ushman, I. P. Teplov, A. E. Dammer and L. A. Boruzdin participated in this work." Orig. art. has: 1 table and 5 figures.

ASSOCIATION: none

SUBMITTED: 00

DATE ACQ: 14Feb64

ENCL: 01

SUB CODE: ML

NO REF SOV: 003

OTHER: 000

Cards 2/12

VORONIN, F.S. (Engr.); CHERNOVOL, S. YE.

Welding

Advanced welding methods at the Zaporozh'ye Machine building Plant "Kommunar." Avtog
delo 23, no 9, 1952

Monthly List of Russian Accessions, Library of Congress, November 1952, Unclassified